Before the

Federal Communications Commission

In the Matter of	)	
	)	
Inquiry Regarding Carrier Current Systems,	)	ET Docket 03-104
including Broadband over Power Line	)	
Systems	)	
	)	

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Reply comments for the record in the Docket No. ET 03-104

In reviewing comments here on docket ET-03-104, I have several points to follow up on my comments, and comments of others.

I reviewed the American Radio Relay League's (ARRL) comments on this matter. I fully agree with their position and data offered in their comments. The field strengths of the broadband over power line (BPL) signals indicated in their studies and charts prove the potential of destroying amateur radio operations on the 1.8 to 54 MHz bands. At the signal levels that the BPL will emit (leak) from the power lines behind my house, I will only hear the strongest signals on these bands. My house is only 50 feet from the medium voltage power lines (the type proposed to carry broadband over power line). My antennas are closer than 50 feet.

Field studies performed by the ARRL laboratory employees showed interference levels at existing BPL test sites to be extremely harmful to amateur radio operations. In most areas tested, only the strongest of signals could be heard through the BPL interference.

The commission needs to understand that these proposed bands are allocated internationally to many licensed services on a primary basis. All unlicensed part 15 generated interference must be resolved in favor of licensed stations.

I fully disagree with the proponents of the BPL system. From their filings I see that the whole BPL proposal is flawed science. There is no evidence provided by the power line industry to indicate that this won't be a major interference problem for licensed radio services. There are no proposals on how to mitigate interference in the favor of licensed radio services.

Commenters, such at the United Power Line Council assert that BPL be covered under the less strict class A computing device standard. The devices that feed signals into homes should be covered under the more strict class B standard. They will be in homes or feeding homes close to over the air receiving devices.

Some of the modulation/transmission schemes proposed will be more damaging to existing licenses in this spectrum. Only systems and modulation techniques that provide the absolute minimum of interference to incumbent licenses on the effected bands should be authorized.

The National Association of Broadcasters brings forth an interesting aspect that some comments have not addressed. They state "Existing BPL studies reveal that the multi carrier modulation techniques employed by BPL systems have a spectral profile that resembles impulse noise." Studies have shown that these types of modulation techniques produce signals that are rich in harmonics. I share their concern that the interference generated by BPL will degrade digital TV broadcasts on the lower channels. This means there will probably be interference from harmonics to the amateur 50 MHz and 144 MHz bands too.

I also concur with comments by the Radio Amateur Satellite Corporation (AMSAT). They state that even a small increase in the noise floor at 21 and 28 MHz (where they have a couple of amateur satellite links) will cause harm to the weak satellite signals. As a user of the satellite AO-7, this will directly affect me. By their calculations the BPL signal in my neighborhood could be 30 db stronger than satellite signal that I can now hear in the clear. Do you see the harm here?

Several commenters discuss the use of a high pass filter / coupler, to connect the BPL signals from the medium voltage lines to the lower voltage lines. I have not found any studies here indicating the cross interference potential from nearby licensed transmitters coupling into the close by power lines. Take this example: An amateur station with an antenna placed near a power line will have energy conducted onto the line. The coupler at the transformer will pass the signal power onto the medium voltage line. The signal will have the possibility of being conducted along this medium voltage line for quite a distance. The BPL devices may be rendered inoperative because of the much stronger amateur transmitter signal.

Several of the suppliers of the BPL devices promote the fact that their devices/system will adapt to minimize interference to licensed transmitters 'detected'. One commenter states that their system will listen for interference and switch frequency. The flaw here is that how can it know it a particular station is listening and getting interference? Most amateur stations spend 90% or more listening and less than 10% transmitting. The system won't know where I am listening, only where I decided to transmit. The Herald Broadcasting Syndicate, Inc. in their comments address this 'problem' in a similar way. They point out the fact that the BPL system will cause interference to the unknown short-wave

broadcast listener who is not transmitting, just listening. I agree with and support their comments here.

If this system is permitted, it will be a constant major drain on the FCC resources. The FCC will have to mitigate numerous interference complaints to licensed services. Amateur interference committees (of which I participate in) will be overworked assisting and diagnosing interference to amateur stations.

Take the lead from other countries like Japan, where they decided BPL was a flawed way to deliver broadband internet services. Thanks for reading my reply comments.

Respectfully submitted,

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